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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,090	07/08/2003	Douglas M. Baney	10020766-1	9657

7590 12/31/2007  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL 429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER
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CHIEM, DINH D

ART UNIT	PAPER NUMBER
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2883

MAIL DATE	DELIVERY MODE
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12/31/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/616,090	<b>Applicant(s)</b> BANEY, DOUGAS M.	
	<b>Examiner</b> Erin D. Chiem	<b>Art Unit</b> 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-10 and 50-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-10 is/are rejected.
- 7) ☒ Claim(s) 50-53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

In view of the canceled claim 5, the objection is withdrawn.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

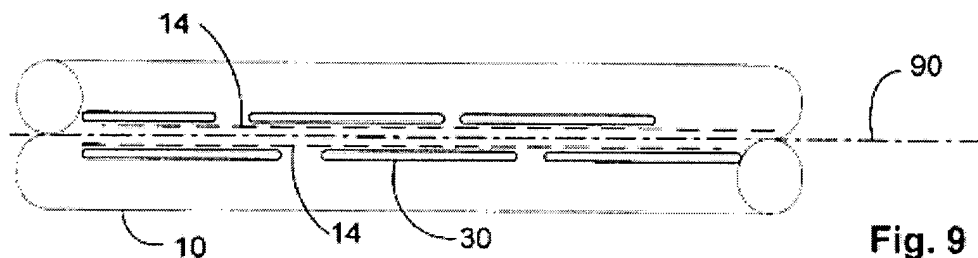
Claims 1, 6-10 are rejected under 35 U.S.C. 102(b) as being Bjarklev et al. (US 6,972,894 B2) in view of Levenson (US 6,496,634 B1).

Claim 1: Bjarklev discloses in Figs. 1, 2, 4, 5, and 9 an optical waveguide absorption cell (Fig. 9), comprising: a holey waveguide (94), also known as photonic bandgap fiber or photonic crystal fiber, a first terminus of said holey waveguide coupled to a first terminus of said first waveguide and said holey waveguide comprising voids filled with a known selective absorption medium (col. 13, lines 22-25), and a cladding region surrounding said core and having a lower index of refraction than said core; and a second waveguide, wherein a first terminus of said second waveguide is coupled to a second terminus of said holey waveguide (93).

However, Bjarklev does not disclose the holey waveguide further comprises a fill hole extending radially to said voids in said core, from exterior to the holey waveguide, at a location that is not at said first terminus of said holey waveguide and is not at said second terminus of

said holey waveguide, said fill hole adapted to introduce said known selective absorption medium into said voids.

Levenson discloses the method of filling the holey waveguide with the known selective absorption medium through capillary action from the holes in the cladding (Fig. 9 and col. 4, lines 1-6) for the purpose of controlling the refractive index of the waveguide. Furthermore, Levenson teaches that the same filling method in the fluid phase can fill the voids in a holey or photonic crystal fiber (col. 7, lines 49-55).



**Fig. 9**

Since Bjarklev and Levenson are both from the same field of endeavor, the purpose disclosed by Levenson would have been recognized in the pertinent art or Bjarklev.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to recognize the filling technique through capillary action, as disclosed by Levenson, would be applicable in the manufacturing of the absorption cell of Bjarklev. **The motivation** for employing the filling method as taught by Levenson by immersing the holey waveguide in a gas or liquid and allows the medium to absorb into the holes through capillary action is a cost effective method versus, for example, vacuum impregnation.

Claim 6: With regard to the limitation wherein the waveguide absorption cell comprises of a first waveguide cable, a holey waveguide cable, and a second waveguide cable is clearly understood as an inference feature in Bjarklev disclosure of a device used in high capacity transmission system (See Background of the Invention).

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjarklev and Levenson in further view of Russell et al. (US 6,631,234 B1) hereinafter "Russell."

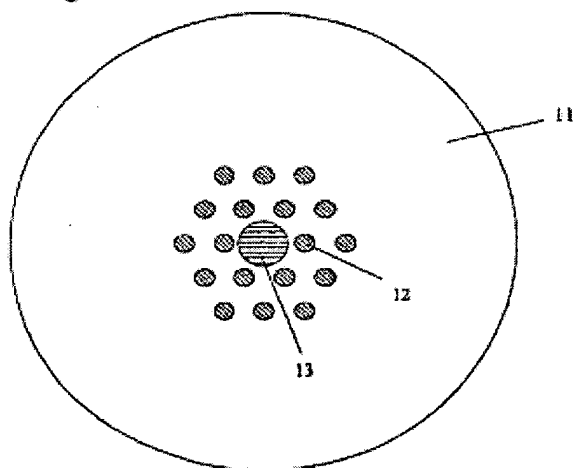
Bjarklev and Levenson discloses the invention of claim 1, however Bjarklev does not explicitly disclose the first terminus of said holey waveguide is coupled to the first terminus of the first waveguide utilizing a fusion splice (claim 2) or a light-transmitting adhesive (claim 3).

Russell discloses fusion splicing a standard waveguide with a holey waveguide by means of fusion splicing and the conventional adhesive (See col. 3, lines 33-50) for the purpose of coupling a standard waveguide with a holey waveguide and maintains the fundamental mode.

Since Bjarklev and Russell are both from the same field of endeavor, the purpose disclosed by Russell would have been recognized in the pertinent art or Bjarklev.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to recognize the fusion splicing technique or using an adhesive as disclosed by Russell would be applicable in the manufacturing of the absorption cell.. **The**

Fig. 1



**motivation** for employing fusion splicing or adhesive as the coupling means in the absorption cell is to improve coupling efficiency at the coupled points.

*Response to Arguments*

Applicant's arguments filed October 9, 2007 have been fully considered but they are not persuasive.

Applicant's ONLY substantial argument is:

- Levenson teaches fill holes extend axially and not radially, therefore, Bajarklev in combination with Levenson did not prove a prima facie case of obviousness.

Examiner's responses are:

- Applicant's argument is not persuasive because applicant's claiming two circular holes providing entrances into the holey core with an absorption medium.  
Although Levenson discloses fill-holes which have different shapes than applicant's claimed invention, examiner find the prima facie case of obviousness is established since the shape of the holes disclosed by Levenson would be easier to fill the holey core of the fiber than applicant's circular holes. It would have been obvious to one skilled in the art to recognize the holes shown in Levenson would be modifiable to a smaller hole or other desirable shapes such that the absorption medium would be filled through.

The rejection above has been modified to clearly cite the amended limitations which are taught by Bjarklev and Levenson. Examiner also provided responses to the germane arguments above.

*Allowable Subject Matter*

Claims 50-53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record does not does not disclose the absorption medium is acetylene gas or hydrogen cyanide gas.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Application/Control Number:

Art Unit: 2883


*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin D. Chiem whose telephone number is (571) 272-3102. The examiner can normally be reached on Monday - Thursday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erin D Chiem  
Examiner  
Art Unit 2883

  
Frank G. Font  
Senior Patent Examiner  
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